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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,903	07/09/2003	Koichiro Nakatani	115914	8441

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EXAMINER

TRAN, DIEM T

ART UNIT PAPER NUMBER

3748

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,903

Applicant(s)

NAKATANI, KOICHIRO

Examiner

Diem Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Deeba et al. (US patent 6,105,365).

Regarding claims 1, 10, Deeba discloses an exhaust emission control apparatus of an internal combustion engine in which combustion is continuously performed at a lean air/fuel ratio, the exhaust emission control apparatus comprising:

a NOx catalyst (42) provided in an exhaust passage of the internal combustion engine for storing NOx contained in an exhaust gas at a lean air/fuel ratio flowing into the exhaust passage, and reducing the stored NOx in the presence of a reducing agent in the exhaust gas when the air/fuel ratio of the exhaust gas is lowered (see col. 4, lines 44-60),

a reducing agent supply valve (32) that is provided in the exhaust passage upstream of the NOx catalyst, through which the reducing agent is supplied to the NOx catalyst, and a controller that temporarily decreases the flow rate of the exhaust gas while supplying the reducing agent through the reducing agent supply valve so as to execute a control of the flow rate of the exhaust gas flowing

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through the NOx catalyst in accordance with a value indicating a state of the exhaust gas flowing through the NOx catalyst, the value being variable upon supply of the reducing agent through the reducing agent supply valve (see col. 5, lines 56-67, col. 6, lines 1-18).

Regarding claims 2, 11, Deeba further discloses that the value indicating the state of the exhaust gas comprises a NOx concentration of the exhaust gas (see col. 5, lines 56-65).

Regarding claims 3, 12, Deeba further discloses that the controller controls the flow rate of the exhaust gas that flows through the NOx catalyst upon the supply of the reducing agent through the reducing agent supply valve such that the value indicating the state of the exhaust gas accords with a target value (see col. 5, lines 56-61, col. 6, lines 1-18, 39-46).

Regarding claims 4, 5, 13, 14, Deeba further discloses that the controller controls the flow rate of the exhaust gas that flows through the NOx catalyst upon the supply of the reducing agent through the reducing agent supply valve so as to accord a time period elapsing from a predetermined reference timing until the value indicating the state of the exhaust gas reaches a peak upon the supply of the reducing agent through the reducing agent supply valve (see col. 6, lines 39-46).

Regarding claims 6, 15, Deeba further discloses that the controller controls a quantity of the reducing agent supplied through the reducing agent supply valve on the basis of the value indicating the state of the exhaust gas at a timing after the execution of the control of the flow rate of the exhaust gas that

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flows through the NOx catalyst upon the supply of the reducing agent through the reducing agent supply valve (see col. 6, lines 39-47).

Regarding claims 7, 8, 16, 17, Deeba further discloses that the controller serves to continuously change the flow rate of the exhaust gas from a timing when the flow rate of the exhaust gas flowing through the NOx catalyst is decreased until restoration of the flow rate of the exhaust gas (see col. 6, lines 27-47).

Regarding claims 9, 18, Deeba further discloses that the controller controls a time period taken for the supply of the reducing agent through the reducing agent supply valve on the basis of the value indicating the state of the exhaust gas (see col. 6, lines 40-46).

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (703) 308-6073. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

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DT
June 23, 2004



Diem Tran
Patent Examiner
Art unit 3748



THOMAS DENION
SUPERVISORY PATENT EXAMINER
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